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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/899,410	07/23/1997	DEANE E. GALLOWAY		7052

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EXAMINER

DYE, RENA

ART UNIT	PAPER NUMBER
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3627

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/899,410

Applicant(s)

GALLOWAY ET AL.

Examiner

Rena L. Dye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 22-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newsome (4,457,960) in view of Lai et al. (5,272,36).

Newsome teaches linear low density polyethylene (LLDPE) used in multiple layer molecularly oriented films (Abstract). The film includes a first barrier layer having two opposing surfaces wherein first and/or second pairs of layers are adhered. In preferred structures the first pair of layers comprises 70% to 100% EVA and the second pair of layers comprises 10% to 90% LLDPE. In an embodiment involving a partial reversal of roles, the first pair of layers comprises 50% to 100% LLDPE. The second and third layers, or barrier layer, may comprise an ethylene vinyl acetate (EVA), and the fourth layer comprises 10% to 100% LLDPE (column 2, lines 40 to column 3, line 24). Newsome uses conventional LLDPE, wherein one commercially available material is DOWLEX (column 5, lines 45+). The barrier layer may be ethylene vinyl alcohol copolymer (column 3, lines 25-28). A substantial end use of the film is in heat sealable shrink bags for utilization particularly in packaging (column 3, lines 32-37). The thickness of each layer of the film is essentially the same as the same layer in conventional shrink films. By way of example in a typical film used to make the bag of Figures 1 and 2, the overall film thickness is 2.25 mils. Layers 14 and 18 are 0.4 mil, and layer 16 is 1.45 mils (column 4, lines 60-65).

Newsome does not teach using metallocene catalyzed polyethylenes, or polymers or copolymers formed by a polymerization reaction with a single site catalyst.

Lai et al. teaches a substantially linear polyethylene that has superior properties to conventional polyethylenes, wherein comparisons are made between their invention and DOWLEX 2054, a conventional LLDPE (see Examples 7-9). They also teach that the polymers of their invention are superior to conventional polyethylene polymers in terms of gloss, haze, dart impact, and clarity (see Examples 10-13).

Lai et al. teaches substantially linear polymers can be homopolymers of C_2 - C_{20} olefins, such as ethylene or polypropylene. The substantially linear polymers can also be interpolymers of ethylene with at least one of a C_3 - C_{20} α -olefins. Monomers usefully polymerized include, for example, ethylenically unsaturated monomers. Preferred monomers include C_2 - C_{10} α -olefins, especially ethylene, propylene, 1-butene, 1-hexene, and 1-octene (column 3, lines 25-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used substantially linear olefin polymers of the type taught by Lai et al. in place of the DOWLEX used in the films taught by Newsome, in order to have produced a film having higher gloss, lower haze, and better clarity.

Although Newsome fails to expressly teach irradiation of the film, it is conventional to cross-link films in order to improve the abrasion resistance of the film. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have irradiated the film taught by Newsome in order to have cross-linked the layers and to have improved the abrasion resistance.

It would have been obvious to one having ordinary skill in the art to have varied the thickness of the layers based upon the desired degree of strength and flexibility. Since the Newsome reference teaches film layer thicknesses which are reasonably close to that which is

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claimed, varying the thickness of the film layers is deemed to be routine optimization and would have been obvious to one having ordinary skill in the art based upon the desired properties.

3. Claims 22-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newsome (4,457,960) in view of Schut "Enter a New Generation of Polyolefins" Nov. 1991, *Plastics Technology*, or Van Der Sanden "A New Family of Linear Ethylene Polymers With Enhanced Sealing Performance" February 1992.

Newsome has been discussed in the previous paragraph. Newsome does not teach using metallocene catalyzed polyethylenes, or polymers or copolymers formed by a polymerization reaction with a single site catalyst.

Schut, an Exxon trade journal, teaches a new line of linear low density polyolefins made using homogenous single site metallocene catalysts, wherein the polyolefins have a density of at least 0.90 g/cc. Furthermore, Schut teaches that EXXPOL EXACT-101 has a total impact strength of 107 in.-lb. These polyolefins have physical characteristics far superior to traditional polyolefins produced from conventional Ziegler/Natta catalysis. For example: metallocene catalyzed polyolefins have lower heat-seal initiation temperatures, higher strength (Dart impact results), and better clarity. The superior attributes of these metallocene catalyzed polyolefins are further elaborated in Van der Sanden et al. (Pages 99-100); and they further teach that these polyolefins are a choice material in the production of heat sealable films. Finally, it should be noted that metallocene catalyzed polyolefins (propylene, 1-butene, 1-hexene, or 1-octene/ethylene copolymers) are commercially available from Dow in the form of "Affinity" or from Exxon in the form of "Exact". As discussed above Van der Sanden et al. and Schut teach that commercially available metallocene catalyzed LLDPE have physical properties far superior to that of analogous LLDPE formed by Ziegler-Natta catalysis.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have used the commercially available metallocene catalyzed LLDPE of the type taught by Schut or Van der Sanden et al. in the laminate structure of Newsome to have produced a film with superior strength and performance.

Although Newsome fails to expressly teach irradiation of the film, it is conventional to cross-link films in order to improve the abrasion resistance of the film. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have irradiated the film taught by Newsome in order to have cross-linked the layers and to have improved the abrasion resistance.

It would have been obvious to one having ordinary skill in the art to have varied the thickness of the layers based upon the desired degree of strength and flexibility. Since the Newsome reference teaches film layer thicknesses which are reasonably close to that which is claimed, varying the thickness of the film layers is deemed to be routine optimization and would have been obvious to one having ordinary skill in the art based upon the desired properties.

It would have been obvious to one having ordinary skill in the art in view of the teachings of Schut or Van der Sanden et al. to have arrived at Applicant's claimed invention. Therefore, the claimed "ethylene alpha-olefin copolymer formed by a polymerization reaction in the presence of a single site catalyst would have been obvious to one having ordinary skill in the art.

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

New Grounds of Rejection

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 22-44 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17,18,20 and 21 over copending Application No. 09/369,978. Although the conflicting claims are not identical, they

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are not patentably distinct from each other because the claims recited in related patent application.

in the present patent application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

5. Applicant's arguments filed on October 10, 2002 have been fully considered but they are not persuasive.

Applicant's arguments have been carefully considered but do not place the present claims in condition for allowance. Lai et al. specifically teaches that the linear olefin polymers are an improvement over that which is conventionally known in the art, and have several uses, *i.e.* fibers, films and molded parts. Therefore, although Newsome teaches a blend of a LDPE made from a conventional catalyst (Zeigler –Natta) with ethylene vinyl acetate copolymers, it would have been obvious to one having ordinary skill in the art to have substituted the LDPE of Lai made from a single site catalyst for the LDPE of Newsome. One having ordinary skill in the art would certainly expect a blend of the LDPE taught by Lai blended with ethylene vinyl acetate copolymer to have superior properties since Lai teaches the disclosed LDPE to be superior over conventional LDPEs in terms of glass, haze, dart impact and clarity.

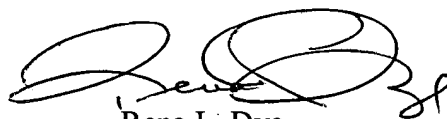
With respect to the Schut and Van der Sanden references, it would have been obvious to one having ordinary skill in the art to have selected a linear low density polyolefin having known superior properties in making films. Therefore, it would have been obvious to one having ordinary skill in the art to have used the polyolefin or LDPE of Schut and Van der Sanden in place of the LDPE of Newsome to have provided a blended film with improved properties.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rena L. Dye whose telephone number is 703-308-4331. The examiner can normally be reached on Monday -Thursday 8:30 AM - 7:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Olszewski can be reached on 703-308-5183. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

A handwritten signature in black ink, appearing to read 'Rena L. Dye', with a stylized flourish at the end.

Rena L. Dye
Primary Examiner
Art Unit 3627

R. Dye
December 17, 2002